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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,935	09/27/2001	Christian Unruh	450117-03594	2193
20999	7590	10/21/2004	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			WU, JINGGE	
			ART UNIT	PAPER NUMBER
			2623	

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/964,935

Applicant(s)

UNRUH ET AL.

Examiner

Jingge Wu

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14-17 is/are rejected.
- 7) ☐ Claim(s) 12 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by the article "An optimization approach for removing blocking effects in transform coding" to MinaMI et al. (a reference of PTO 1449)

As to claim 1, Minami discloses a method to rate a discrete decoded picture in respect to its quality, characterized by calculating a picture quality rating function (PQRF; PQRF-B) (see equation 13 and 14) on basis of an information about artifacts (ARI; MSDS, equation 13) within the discrete decoded picture and a coding information (CRI; Mquant, equation 14, coding information, i.e., quantization vectors or scale factors)) which was used for discrete coding the picture (abstract, page 76, section IV and page 77-78, section V, especially equation 13 or 16 and 14, note that the equations 13 and 14 are also represented a function of picture quality, i.e., the minimizing the function is the better quality).

As to claim 2, Minami further discloses (AR1, equation 13 or 16) is a criterion of discontinuity (MSDS) and said coding information (CR1) is a scaling factor (equation 14).

As to claim 3, Minami further discloses a method according to claim 2,

characterized by retrieving said scaling factor from the discrete decoded picture on basis of a number of bits used for discrete coding the picture (fig. 3, page 75, section II).

As to claims 4-7, Minami further discloses determining said criterion of discontinuity (MSDS) based on a rating of transitions in-between neighbored blocks of the discrete decoded picture (figs. 5-6), which is characterized by in-between neighbored blocks dependent on at least one respective main gradient and one respective sub gradient of a transition in-between neighbored blocks (figs. 5-6) or by rating transitions in-between neighbored blocks based on a sum of a squared difference of all respective main gradients and all respective sub gradients of a transition in-between neighbored blocks (figs. 5-6), or rating transitions in-between neighbored blocks based on a sum of all transitions in-between neighbored blocks (figs. 5-6) (page 76-77, section IV).

As to claim 8, Minami further discloses determining said picture quality rating function distinct in respect to horizontal and vertical transitions (page 77 equation 6, figs. 5-6, note that F and D denote horizontal, B and D represent the vertical direction).

As to claims 9-10, Minami further discloses a function indicates a maximum quality in case the scaling factor indicates a high correlation with picture (page 78, equation 14, the factors must be under constraints upper and lower limits and indicates a maximum quality in case the criterion of discontinuity (MSDS) indicates a small discontinuity (page 78, equation 13 or 16, minimizing 13 or 16 means better picture quality).

As to claims 14-16, Minami further discloses DCT (abstract), picture decoding and/or post-processing method, and encoding and/or pre-processing method (page 79, figs. 8-9, note that encoding and decoding are inherent to obtain the picture).

As to claim 17, the claim is corresponding computer program product claim to claim 1, the discussions are addressed with regard to claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minami.

Minami does not explicitly mention the sum of function of quantization factors.

Examiner takes Official Notice that the feature of the quantization factor as a function of picture quality is notoriously well known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use both MSDS and quantization factor function summed as a quality evaluation function to a decoded picture in order to fully measure the quality of decoded picture.

Allowable Subject Matter

Claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be **allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

Contact Information

Art Unit: 2623

Any inquiry concerning this communication or earlier communications should be directed to Jingge Wu whose telephone number is (703) 308-9588. He can normally be reached Monday through Thursday from 8:00 am to 5:30 pm. The examiner can be also reached on second alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to TC customer service whose telephone number is (703) 306-0377.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amelia Au, can be reached at (703) 308-6604.

The Working Group Fax number is (703) 872-9314.

Jingge Wu

Primary Patent Examiner

